

AMENDMENTS TO THE CLAIMS

Claims 1-11 canceled

12. (New) A method for differentiating mammalian bone marrow cells or cord blood-derived cells into myocardial precursor cells and/or myocardial cells without genetic engineering by culturing said bone marrow cells or cord blood-derived cells with cells isolated from mammalian fat tissues or a culture supernatant thereof.

13. (New) The method according to claim 12, wherein culture is conducted for at least 1 day using a culture solution containing serum or any substitute thereof.

14. (New) The method according to claim 13, wherein culture is conducted with the addition of at least one cytokine to a culture solution.

15. (New) The method according to claim 14, wherein the cytokine is selected from among: members of the EGF family, such as EGF, TGF- α , HB-EGF, FGF, and HGF; members of the TGF- β family, such as TGF- β ; members of the IL family, such as LIF; members of the VEGF family, such as VEGF-A; members of the PDGF family, such as PDGF-AB and PDGF-BB; members of the Ephrin family, such as Ephrin B; and SCF.

16. (New) The method according to claim 12, wherein the bone marrow cells are mesenchymal stem cells or hematopoietic stem cells.

17. (New) The method according to claim 12, wherein the cord blood-derived cells are mononuclear cells.

18. (New) The method according to claim 12, wherein the bone marrow cells or cord blood-derived cells are mixed with the cells isolated from fat tissues at a ratio of 0.1:1 to 1:10.

19. (New) The method according to claim 12, wherein the myocardial precursor cells and/or myocardial cells are sarcomeric actin-positive cells.

20. (New) Myocardial precursor cells and/or myocardial cells prepared by the method according to claim 12.

21. (New) The myocardial precursor cells and/or myocardial cells according to claim 20, which can be transplanted into mammalian adults.

22. (New) A method for evaluating the effects of a test substance on myocardial precursor cells and/or myocardial cells by adding the test substance to the myocardial precursor cells and/or myocardial cells according to claim 20.